

REMARKS

Status of the Claims

Claim 7 is pending in the present application. Claims 2, 6, 8, 12-14, and 22-25 are cancelled herein. Thus, no new matter has been added.

Applicants submit that the present Amendment reduces the number of issues under consideration and places the case in condition for allowance. Alternatively, entry of the present amendment is proper to place the claims in better form for appeal.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Issues under 35 U.S.C. § 103(a)

Claims 2, 6-8, 12-14, and 22-25 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Schauder et al. '766 (US 5,728,766) in view of Singha et al. (Journal of Applied Polymer Science) (pages 2-6 of the outstanding Office Action).

Applicants respectfully traverse. Reconsideration and withdrawal of this rejection are respectfully requested.

Legal Standard for Determining Prima Facie Obviousness

MPEP 2141 sets forth the guidelines in determining obviousness. First, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), which has provided the controlling framework for an obviousness analysis. The four *Graham* factors are:

- (a) determining the scope and content of the prior art;
- (b) ascertaining the differences between the prior art and the claims in issue;
- (c) resolving the level of ordinary skill in the pertinent art; and
- (d) evaluating any evidence of secondary considerations.

Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966).

Second, the Examiner has to provide some rationale for determining obviousness. MPEP 2143 sets forth some rationales that were established in the recent decision of *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

As the MPEP directs, all claim limitations must be considered in view of the cited prior art in order to establish a *prima facie* case of obviousness. *See* MPEP 2143.03.

Distinctions over the Cited References

Independent claim 7 recites that “said hydrogenated natural polyisoprenoid is an ingredient in modified lattices obtained by hydrogenating natural polyisoprenoid lattices in the state of latex.” As the Examiner admits, the cited references fail to disclose this element.

However, the Examiner asserts that this claim is a product-by-process claim (page 4, first full paragraph of the outstanding Office Action). Applicants respectfully submit that the Examiner is incorrect. Claim 7 is directed to a method for producing a rubber-like elastic article. Thus, claim 7 is not a product-by-process claim and the element that “said hydrogenated natural polyisoprenoid is an ingredient in modified lattices obtained by hydrogenating natural polyisoprenoid lattices in the state of latex” should be fully considered.

Schauder et al. ‘766 teach a rubber-like article comprising an ethylene-propylene copolymer that has been molded and vulcanized. Schauder et al. ‘766 teach that the copolymer has a molecular weight distribution between 1 and 8. However, Schauder et al. ‘766 fail to teach the step of subjecting a rubber composition comprising a hydrogenated natural polyisoprenoid to molding/forming accompanied by vulcanization. Furthermore, Schauder et al. ‘766 do not teach that “hydrogenated natural polyisoprenoid is an ingredient in modified lattices obtained by hydrogenating natural polyisoprenoid lattices in the state of latex.”

Singha et al. teach hydrogenating a natural rubber/*Hevea brasiliensis* to a degree of hydrogenation of 100% in the presence of a rhodium complex in a solvent. However, Singha et al. do not teach the claimed process step comprising a hydrogenated natural polyisoprenoid. Furthermore, Singha et al. do not teach that “hydrogenated natural polyisoprenoid is an ingredient in modified lattices obtained by hydrogenating natural polyisoprenoid lattices in the state of latex.”

Furthermore, Schauder et al. ‘766 and Singha et al. are not properly or easily combinable. The Examiner asserts that, when the description of the vulcanization of the synthetic rubber of Schauder et al. ‘766 is combined with the description of the research of the hydrogenation of

natural rubber, one of ordinary skill in the art can easily complete the rubber-like elastic article of the present invention. Applicants respectfully traverse this assertion.

First, one of ordinary skill in the art would have no reason, rationale, or motivation to combine these teachings. Schauder et al. '766 require the use of synthetic rubber (EPM or EPDM). Schauder et al. '766 provide no reason, rationale, or motivation to add or substitute natural rubber, and no advantage can be found for using natural rubber in the method of Schauder et al. '766. In fact, one of ordinary skill in the art has no way of knowing whether the method of Schauder et al. '766 is applicable when natural rubber is used.

Moreover, the Examiner admits that the cited references do not teach the weight average molecular weight of the polymer. However, the Examiner asserts that, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.

However, an optimal value was not known at the time when the present invention was conceived. Moreover, Sasagawa et al. '475 (US 2003/0125475), which was cited in a previous Office Action, disclosed that "a hydrogenated polymer having a molecular weight exceeding 600,000 has poor processability" (paragraph [0020]). As such, previous disclosures actually taught away from the present invention. Reaching the present invention by conducting experiments opposite to the teaching of an appropriate value disclosed in Sasagawa et al. '475 would have to go through undue experimentation. Therefore, the limitation "the hydrogenated natural polyisoprenoid has a weight-average molecular weight of 83 (or 60) $\times 10^4$ or more" of the present application is not obvious over the cited references.

The rubber-like-material-containing articles according to the process of the present invention have superior properties such as markedly improved abrasion resistance, weather resistance, improved SET (compression set) properties, and low-temperature resistance over conventional EPDMs. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of invention to have used the hydrogenated rubber of Singha et al. in the molded article of Schauder et al. '766. However, as discussed above, one of ordinary skill in the art would have no reason, rationale, or motivation for combining these references to obtain the claimed process.

To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, the cited references fail to disclose all of the claim limitations of independent claim 7. Accordingly, the combinations of references do not render the present invention obvious.

Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the outstanding rejections is respectfully requested. Any contentions of the USPTO to the contrary must be reconsidered at present.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. A complete response has been made to the outstanding Office Action, and as such, the application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink, Registration No. 58,258, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

By 

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